

### AMENDMENTS TO THE CLAIMS

*Please amend the claims as follows:*

1-14. **(Canceled)**

15. **(Currently Amended)** A method for treating arthritis comprising administering by injection to a subject a fully human anti-TNF $\alpha$  antibody, or an antigen-binding portion thereof, in a low dose of ~~0.01~~ about 0.1 mg/kg at a frequency of not more than once per week, such that the arthritis is treated as demonstrable by mean arthritic score, wherein the anti-TNF $\alpha$  antibody, or antigen-binding portion thereof, dissociates from human TNF $\alpha$  with a  $K_d$  of  $1 \times 10^{-8}$  M or less and a  $k_{off}$  rate constant of  $1 \times 10^{-3}$  s $^{-1}$  or less, both determined by surface plasmon resonance, and neutralizes human TNF $\alpha$  cytotoxicity in a standard *in vitro* L929 assay with an IC $_{50}$  of  $1 \times 10^{-7}$  M or less, and wherein arthritis is treated by alleviating at least one symptom selected from the group consisting of joint distortion, swelling of the joints, joint deformation, and ankylosis on flexion.

16. **(Original)** The method of claim 15, wherein the arthritis is rheumatoid arthritis.

17. **(Currently amended)** The method of claim 15 or 16, wherein arthritis is further treated by alleviating at least one symptom selected from the group consisting of bone erosion, cartilage erosion, inflammation, and vascularity.

18-20. **(Canceled)**

21. **(Currently Amended)** A low dose method for alleviating at least one symptoms associated with arthritis comprising administering by injection to a subject a fully human anti-TNF $\alpha$  antibody, or an antigen-binding portion thereof, in a low dose of 0.01 - 0.1 mg/kg at a frequency of not more than once per week, such that alleviation of the at least one symptom selected from the group consisting of bone erosion, cartilage erosion, inflammation, and vascularity is demonstrable after 10 treatments alleviated, wherein the anti-TNF $\alpha$  antibody, or antigen-binding portion thereof, dissociates from human TNF $\alpha$  with a  $K_d$  of  $1 \times 10^{-8}$  M or less and a  $k_{off}$  rate constant of  $1 \times 10^{-3}$  s $^{-1}$  or less, both determined by surface plasmon resonance, and neutralizes human TNF $\alpha$  cytotoxicity in a standard *in vitro* L929 assay with an IC $_{50}$  of  $1 \times 10^{-7}$  M or less.

22. **(Previously Presented)** The method of claim 21, wherein the arthritis is rheumatoid arthritis.
23. **(Canceled)**
24. **(Previously Presented)** The method of claim 21, wherein the symptom is further selected from the group consisting of joint distortion, swelling, joint deformation, ankylosis on flexion, and severely impaired movement.
- 25-30. **(Canceled)**
31. **(Previously Presented)** The method of claim 15 or 21, wherein the anti-TNF $\alpha$  antibody, or an antigen-binding portion thereof, is administered with an additional therapeutic agent.
- 32-33. **(Canceled)**
34. **(Previously Presented)** The method of any one of claims 15 or 16, wherein the anti-TNF $\alpha$  antibody, or an antigen-binding portion thereof, is D2E7.
35. **(Previously Presented)** The method of any one of claims 21 or 22, wherein the anti-TNF $\alpha$  antibody, or an antigen-binding portion thereof, is D2E7.
- 36-41. **(Canceled)**
42. **(Currently Amended)** A low dose method for treating rheumatoid arthritis comprising administering by injection to a subject a low dose of 0.01 - 0.1 mg/kg of a fully human TNF $\alpha$  antibody, or antigen-binding portion thereof, at a frequency of not more than once per week such that the rheumatoid arthritis is treated, as demonstrable by mean arthritic score after 10 treatments, wherein the anti-TNF $\alpha$  antibody, or antigen-binding portion thereof, dissociates from human TNF $\alpha$  with a  $K_d$  of  $1 \times 10^{-8}$  M or less and a  $k_{off}$  rate constant of  $1 \times 10^{-3} s^{-1}$  or less, both determined by surface plasmon resonance, and neutralizes human TNF $\alpha$  cytotoxicity in a standard *in vitro* L929 assay with an  $IC_{50}$  of  $1 \times 10^{-7}$  M or less, and wherein arthritis is treated by alleviating at least one symptom selected from the group consisting of joint distortion, swelling of the joints, joint deformation, and ankylosis on flexion.

43. **(Currently amended)** The method of claim 42, wherein rheumatoid arthritis is further treated by alleviating at least one symptom selected from the group consisting of bone erosion, cartilage erosion, inflammation, and vascularity.
44. **(Canceled)**
45. **(Previously Presented)** The method of claim 42, wherein the anti-TNF $\alpha$  antibody, or antigen-binding portion thereof, is D2E7.
- 46-47. **(Canceled)**
48. **(Currently Amended)** A low dose method of improving symptoms in the joints of a subject having arthritis comprising administering by injection to the subject a low dose of ~~0.01~~—about 0.1 mg/kg of a fully human anti-TNF $\alpha$  antibody, or antigen-binding portion thereof, at a frequency of not more than once per week such that at least one symptom selected from the group consisting of inflammation, cartilage erosion, bone erosion, and vascularity is improved, wherein the anti-TNF $\alpha$  antibody, or antigen-binding portion thereof, dissociates from human TNF $\alpha$  with a  $K_d$  of  $1 \times 10^{-8}$  M or less and a  $k_{off}$  rate constant of  $1 \times 10^{-3}$  s $^{-1}$  or less, both determined by surface plasmon resonance, and neutralizes human TNF $\alpha$  cytotoxicity in a standard *in vitro* L929 assay with an IC $_{50}$  of  $1 \times 10^{-7}$  M or less.
- 49 - 51. **(Canceled)**
52. **(Withdrawn)** A low dose method for treating arthritis comprising administering to a subject etanercept, or an antigen-binding portion thereof, in a low dose of 0.1 - 0.5 mg/kg at a frequency of not more than once per week, such that the arthritis is treated by alleviating at least one symptom selected from the group consisting of bone erosion, cartilage erosion, inflammation, and vascularity.
53. **(Withdrawn)** A low dose method for alleviating at least one symptom associated with arthritis comprising administering to a subject an effective amount of etanercept, or an antigen-binding portion thereof, in a low dose of 0.1 - 0.5 mg/kg at a frequency of not more than once per week, such that the at least one symptom is alleviated, wherein the at least one symptom selected from the group consisting of bone erosion, cartilage erosion, inflammation, and vascularity.

54. **(Currently Amended)** A low dose method for treating arthritis comprising administering to a subject ~~etanercept an anti-TNF $\alpha$  drug selected from the group consisting of enanterecept and infliximab, or an antigen-binding portion thereof~~, in a low dose of 0.5 - 1.0 mg/kg at a frequency of not more than once per week, such that the arthritis is treated by alleviating at least one symptom selected from the group consisting of bone erosion, cartilage erosion, inflammation, and vascularity.
55. **(Currently Amended)** A low dose method for alleviating at least one symptom associated with arthritis comprising administering to a subject an effective amount of ~~etanercept an anti-TNF $\alpha$  drug selected from the group consisting of enanterecept and infliximab, or an antigen-binding portion thereof~~, in a low dose of 0.5 - 1.0 mg/kg at a frequency of not more than once per week, such that the at least one symptom is alleviated, wherein the at least one symptom selected from the group consisting of bone erosion, cartilage erosion, inflammation, and vascularity.
56. **(Canceled)**
57. **(New)** The method of claim 21 or 42, wherein the fully human anti-TNF $\alpha$  antibody, or an antigen-binding portion thereof, is administered in a low dose of about 0.1 mg/kg.
58. **(New)** A low dose method for treating arthritis comprising administering to a subject infliximab, or an antigen-binding portion thereof, in a low dose of about 0.5 mg/kg, such that the arthritis is treated by alleviating at least one symptom selected from the group consisting of bone erosion, cartilage erosion, inflammation, and vascularity.
59. **(New)** A low dose method for alleviating at least one symptom associated with arthritis comprising administering to a subject an effective amount of infliximab, or an antigen-binding portion thereof, in a low dose of about 0.5 mg/kg, such that the at least one symptom is alleviated, wherein the at least one symptom selected from the group consisting of bone erosion, cartilage erosion, inflammation, and vascularity.